

Amendment to the claims

This listing of claims replaces all prior versions, and listings, of claims in the application.

Listing of claims:

1. (Currently amended) A module for purifying a fluid, comprising a cylindrical container provided at a first of its axial ends with a head having fluid inlet and outlet orifices communicating with the interior of the module and having a cylindrical skirt projecting axially therefrom, and at a second of its axial ends with a bottom comprising a crenellated ring projecting axially therefrom, in which are housed pretreatment means for carrying out a first operation of purifying the fluid and treatment means for carrying out a second operation of purifying the fluid after the latter has been treated by the pretreatment means, wherein said container is monolithic to form a disposable module and the interior thereof is divided by separator means into an external cylindrical space and an internal cylindrical space, said separator means extending from said cylindrical skirt to said crenellated ring, said external cylindrical space and said internal cylindrical space communicating with each other via one or more passages defined by the crenellations in said crenellated

~~ring in the vicinity of the second axial end of the~~
~~container,~~ the treatment means include a cartridge including one or more selectively permeable membranes for dividing, by virtue of permeation through the membrane or membranes due to the action of a pressure gradient, the flow of fluid that has undergone the first purification operation and caused to flow tangentially to the membrane or membranes into a flow of permeate consisting of purified fluid that has passed through the membrane and therefore undergone two purification operations and a flow of retentate consisting of residual fluid that has not passed through the membrane or membranes, the pretreatment means and the cartridge are housed in the external cylindrical space and the internal cylindrical space, respectively, the external cylindrical space communicates, at the same end as the first axial end of the container, with a first orifice for feeding fluid to be purified to the pretreatment means, and the internal cylindrical space communicates separately, at the same end as the first axial end of the container, with a second orifice for evacuating from the module the flow of permeate and with a third orifice for evacuating from the module the flow of retentate, wherein said cartridge comprises (i) a cylindrical enclosure and, concentric therewith, a hollow, perforated, central

innermost tube of said cylindrical container in which said cartridge is contained, said central innermost tube sharing the axis of said cylindrical container with said external cylindrical space and said internal cylindrical space, (ii) one or more selectively permeable reverse osmosis treatment membranes between said cylindrical enclosure and said central innermost tube and communicating with said central innermost tube for collection by the latter of the flow of permeate and with the exterior of said cartridge via the annular faces thereof between the cylindrical enclosure and said central innermost tube at each axial end of said cylindrical enclosure, respectively to feed said cartridge with fluid treated by said pretreatment means and for the outflow of retentate.

2. (Previously presented) A module according to claim 1, wherein said cartridge is a reverse osmosis, nanofiltration or ultrafiltration cartridge.

3. (Cancelled)

4. (Previously presented) A module according to claim 1, further comprising means for providing a sealed connection between the separator means and the cylindrical enclosure of said cartridge, said means being attached to the cylindrical enclosure and extending around the cylindrical enclosure.

5. (Previously presented) A module according to claim 1, wherein said pretreatment means are chosen from the group consisting of activated charcoal, polyphosphates and frontal filtration elements.

6. (Currently amended) A module according to claim 1, wherein said container includes a cylindrical wall closed at the first axial end by a ~~non-removable~~ said head for connecting the module to a fluid purification unit and including three parallel connectors in each of which is formed one of the three orifices and the cylindrical wall is closed at the second axial end by a ~~non-removable~~ said bottom, wherein said head and said bottom are non-removable.

7. (Previously presented) A module according to claim 6, wherein said connectors extend globally perpendicularly to the axis of the cylindrical wall of the container.

8. (Currently amended) A module according to claim 6 or claim 7, wherein said ~~separator means include a cylindrical wall, a cylindrical skirt, and a ring respectively projecting from the internal face of the head and the internal face of the bottom, the skirt and the~~ said ring ~~providing~~ provide continuity of separation from a corresponding longitudinal end of the cylindrical wall to the head and to the bottom, respectively.

9. (Previously presented) A module according to claim 8, wherein said head is fixed to the cylindrical wall of the container by gluing, rotation welding, ultrasound welding or fusion welding their annular edges.

10. (Previously presented) A module according to claim 8, wherein said cylindrical skirt of the head and the axial end of the cylindrical wall of the separator means at the same end as the first axial end of the container are either fixed together by gluing, rotation welding, ultrasound welding or fusion welding their annular edges or housed concentrically with one inside the other with a seal between them.

11. (Previously presented) A module according to claim 10, wherein said skirt of the head and the cylindrical wall of the separator means each have an annular recess forming with the opposite recess an annular housing for the seal.

12. (Previously presented) A module according to claim 8, wherein said ring of the bottom and the axial end of the cylindrical wall of the separator means at the same end as the second axial end of the container are housed concentrically one inside the other.

13. (Cancelled)

14. (Currently amended) A module according to claim

1, wherein 13, ~~characterized in that~~ the bottom of the container includes locating means for holding the cylindrical wall of the separator means at an axial distance from the internal face of the bottom to allow fluid to flow from the external cylindrical space to the internal cylindrical space via the crenellations of the crenellated ring.

15. (Previously presented) A module according to claim 14, wherein said crenellated ring includes recesses between the crenellations and forming axial abutments serving as locating means for the cylindrical wall of the separator means.

16. (Previously presented) A module according to claim 15, wherein said locating means take the form of patterns projecting from the internal face of the bottom of the container.

17. (Previously presented) A module according to claim 8, wherein the perimeter of the cylindrical wall of the separator means has in the vicinity of each axial end of the cylindrical wall centering fingers extending radially as far as the cylindrical wall of the container and serving to place the axis of the cylindrical wall on the axis of the container.

18. (Previously presented) A module according to

claim 6, wherein said head and the bottom of the container include a nesting retainer for the cartridge.

19. (Previously presented) A module according to claim 18, wherein said head and the bottom each include a bush housing a respective axial end portion of the central tube and one or more seals are disposed between the latter and the central bush of the head, the latter bush communicating with the second orifice.

20. (Previously presented) A module according to claim 19, wherein said seal or each seal is housed in a groove formed in the central tube.

21. (Previously presented) A module according to claim 19 or claim 20, further comprising a central truncated cone for positioning the cartridge, operative inside the central tube of the latter, and projecting from the internal face of the bottom of the container, concentrically with the bush of the bottom and over a length greater than that of the bush.

22. (Previously presented) A module according to claim 8, further comprising a perforated or porous disk in the vicinity of each axial end of the container and between the cylindrical walls of the latter to retain the pretreatment means in the external cylindrical space whilst allowing the fluid to be purified to pass.

23. (Previously presented) A module according to claim 2, wherein said central innermost tube is closed at the same end as the annular face of said cartridge through which the fluid enters the cartridge.